

REMARKS

Claims 1 – 8 and 10 – 21 are currently pending. Claims 1 and 3 – 8 have been amended, claims 10 – 21 are original, and claim 9 has been canceled. No new matter has been added.

INFORMAL MATTERS:

Claims 3 – 6 have been amended to correct inadvertent typographical errors. No new matter has been added and the scope of these claims has not been changed.

REJECTION UNDER 35 U.S.C. § 102(b):

The Office has rejected claims 1 and 7 – 9 under 35 U.S.C. § 102(b) as being anticipated by U.S. Pat. No. 5,874,658 (Belter). Specifically, the Office cites Belter as teaching a method for separating hydrogen fluoride from a mixture of hydrogen fluoride and a hydrofluorocarbon comprising treating the mixture with an aqueous solution of sulfuric acid, wherein the concentration of sulfuric acid is solution is from about 1 – 100%.

Applicants have amended claim 1 whereby the halogenated hydrocarbon mixture is directed towards an azeotrope or azeotrope-like mixture of halogenated hydrocarbons. Support for this amendment is found in the original specification at page 6, lines 24 – 27. Applicants note that pages 6 - 7 of the specification state that “Applicants have recognized that in certain preferred embodiments, the advantages of the present invention are most greatly exploited when at least a portion of the HF and halogenated hydrocarbon mixture is azeotrope or azeotrope-like.”

In addition, Applicants have amended claims 7 and 8 whereby the halogenated hydrocarbon mixture is directed towards a hydrochlorofluorocarbon, a hydrochlorocarbon, or some combination thereof. Support for this amendment can be found in the original specification at page 6, lines 9 – 12, and page 7, lines 4 – 16.

For a rejection to be sustainable under § 102(b), each and every element set forth in the claimed invention must be found in the cited reference. *See Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987) (“A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference.”); *see also* MPEP § 2131. The Belter patent does not teach all of the elements of claims 1 or 7 as currently amended. Specifically, with respect to claim 1, Belter does not teach or even suggest a method of separating hydrogen fluoride from an azeotrope or azeotrope-like mixture of hydrogen fluoride and a halogenated hydrocarbon. Moreover, with respect to claim 7, Belter does not teach or suggest a method of separating hydrogen fluoride from a mixture of hydrogen fluoride and hydrofluorochlorocarbons or hydrochlorocarbons. For at least these reasons, claims 1 and 7, and the claims dependent therefrom, are patentable over Belter.

REJECTION UNDER 35 U.S.C. § 103(a):

The Office has rejected claims 1 – 21 as being obvious over Belter, and optionally, in view of U.S. Pat. No. 5,895,639 (Swain). Specifically, the Office asserts that, with respect to Belter, the subject matter of the original claims is obvious in light of the encompassing and overlapping ranges taught by Belter. In addition, the Office argues

that it would have been obvious to use the process of Belter to separate hydrofluorocarbons, other than the disclosed HFC-245fa, from hydrogen fluoride. With respect to Swain, the Office asserts that the original claimed subject matter is obvious in light of Swain's teaching that hydrogen fluoride can be separated from sulfuric acid by a distillation process.

For a rejection to be sustainable under § 103(a), three criteria must be met: (1) there must be some suggestion or motivation to modify the reference or to combine references; (2) there must be a reasonable expectation of success; and (3) the reference or combined references must suggest all of the claim limitations. MPEP § 2143.

The invention, as now defined in claim 1, is not obvious in view of Belter because this patent does not suggest or even allude to a process for separating hydrogen fluoride from an azeotrope or azeotrope-like mixture of hydrogen fluoride and a halogenated hydrocarbon. Moreover, as required by claim 7, Belter does not teach or even suggest a process for separating hydrogen fluoride from a mixture of hydrogen fluoride and hydrochlorofluorocarbons or hydrochlorocarbons. In fact, Belter only teaches separation of hydrogen fluoride from a hydrofluorocarbon, such as HFC-245fa, and there is no suggestion or motivation within Belter to modify its teachings to include azeotrope mixtures or mixtures containing hydrochlorofluorocarbons or hydrochlorocarbons.

Furthermore, the presently claimed invention, as a whole, is not made obvious by Belter in view of Swain. The Office cites Swain as teaching that hydrogen fluoride can be separated from concentrated sulfuric acid by distillation. However, as described above, Belter does not suggest all of the claim limitations, as currently amended, and the Swain patent does not overcome these shortcomings. For example, Swain at column 2,

lines 32 – 35 states that, “[T]he term hydrofluorocarbon means compounds containing atoms only selected from carbon, hydrogen, and fluorine. Such do not contain other halogen atoms.” Thus, Swain explicitly fails to suggest that its reference be modified to encompass the hydrochlorofluorocarbons and hydrochlorocarbons of the present invention.

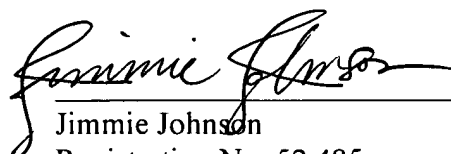
For at least these reasons, the present invention is not made obvious by Belter alone or by Belter in view of Swain.

CONCLUSION:

In light of the foregoing remarks and amendments, Applicants assert that the pending claims define subject matter which is patentable over the prior art and respectfully requests that the Office issue an indication of same at the earliest possible date. The Office is invited to contact Applicants’ undersigned counsel to further the prosecution of this case in any way.

Respectfully submitted,

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